Unit 8: Geometry

The book.

Exercise 8A

1   **a** $40°$ **b** $115°$ **c** $90°$

     d $y = 140°$ **e** $a = 60°$ **f** $x = 120°$

2   **a** $35°$ **b** $y = 130°$ $x = 50°$

3 $a + b = 180$ as they are on a straight line

     $c + b = 180$ as they are on a straight line

     $b + c = 180$ as they are on a straight line

     $d + c = 180$ as they are on a straight line

     Therefore $b = d$ (the same number must be added to c to make 180)

4   any 3 values that sum to 360.

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1

5 Yes, there will be a gap of 10° because the angles add up to 350°

6 Could be angle y: 50° 75°
Could not be angle y: 95° 105°

7 a 45° **b** 30° **c** 150°

Activity page 119

4 d 360°

Exercise 8B

1 a 107° **b** 80° **c** 48° **d** 96°
e 55° **f** 70° **g** both are 125°

2 The angle sum is greater than 360, which is not possible

3 $a + b + c = 180°$ because angles in a triangle add up to 180°
$d + e + f = 180°$ because angles in a triangle add up to 180°
so $a + b + c + d + e + f = 360°$
Therefore the angle sum of a quadrilateral is 360°.

4 They add up to 362°

5 78° and 96°

6 a $b = 45°, c = 135°$ **b** $m = 113°$

7 $2x = 48°, 3x = 72°, 4x = 96°, 6x = 144°$

8A

1 55°

2 210°

3 160°

4 105°

5 105°

6 $a = 110°, b = 70°, c = 110°$

7 $a = 94°, b = 86°, c = 94°$

8 146Y, 146 Y

9 72Y, 72 Y72 Y72, Y2

10 60Y, 60 Y90 Y50Y

11 $46\frac{2}{3}$Y, $93\frac{1}{3}$ Y140Y

12 No. The angles add up to 359°, not 360°.

8B

1 83°

2 97°

3 $a = 50°, b = 140°, c = 120°, d = 50°$

4 Yes. The angles add up to 359°, not 360°.

5 a $a + c = 72°$

   b   possible answer: 60° and 12°